

In the Abstract:

Kindly enter and approve the following abstract:

-- A mixed waste mediated electrochemical oxidation process (MEO) process and apparatus for the dissolution of transuranic elements, and/or compounds thereof in transuranic waste, low level waste (LLW), low level mixed waste, special case waste, and greater than class C LLWs, and also the destruction of the non-fluorocarbon organic component in the waste. The MEO process and apparatus operates in three different modes: dissolution, destruction, and decontamination. In the first mode, dissolution, the process runs until the transuranics such as a mixed oxide or carbide, and/or mixture of oxides or carbides of uranium and plutonium are totally dissolved into solution. The second mode, destruction, the process is operated such that the mixed waste materials are reduced to CO<sub>2</sub>, water and small amounts of inorganic salts. The third mode, decontamination, involves contaminated equipment. In the decontamination mode the MEO process destroys the mixed wastes that have contaminated the equipment. --